Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 22, 90 and 94	)	WT Docket No. 95-70
of the Commission's Rules to Permit	)	
Routine Use of Signal Boosters	)	

COMMENTS OF RAM MOBILE DATA USA LIMITED PARTNERSHIP

RAM Mobile Data USA Limited Partnership ("RMD") hereby submits the following comments with respect to the Notice of Proposed Rule Making (the "Notice") in the above-captioned proceeding. RMD strongly supports the Commission's objective in this rule making to provide licensees with additional means to resolve signal coverage problems within their service areas. While RMD is aware that a number of services implicated by this rule making likely would benefit from adoption of the proposals set forth in the Notice, RMD limits its comments in this proceeding exclusively to the use of signal boosters by 900 MHz SMR licensees.

Furthermore, because of the very different underlying licensing schemes involved in different services — in particular, whether frequencies are licensed on an exclusive basis over defined areas or on a shared basis and/or are only licensed for particular sites — RMD urges the Commission to give separate consideration of the proposed rule as applicable to particular services in particular bands. Otherwise, there is a risk that protection that may be necessary or appropriate for some frequencies, but may be unnecessarily conservative for others, will be adopted across-the-board.

As discussed below, 900 MHz SMR licensees (both existing "incumbent" operators and soon to be licensed MTA-based licensees) should be permitted to deploy narrowband signal boosters (which, by definition, includes booster/translators as they "amplify only those discrete frequencies intended to be transmitted"[1]) on an unrestricted basis within their licensed areas of operation, provided that the use of such boosters does not extend their signals beyond the geographic boundaries within which such signals must be confined in accordance

[1] Notice at ¶ 3.

with Part 90 of the Commission's Rules. 900 MHz SMR licensees also should be allowed to deploy broadband boosters within their licensed areas of operation provided that such licensees comply with the restrictions discussed below, restrictions which RMD proposes to minimize the potential for interference associated with broadband boosters, while still allowing such boosters to be of sufficient power to be of viable use to provide in-building coverage where they have the most potential benefit.

I. THE ROUTINE USE OF SIGNAL BOOSTERS BY 900 MHZ LICENSEES WOULD SUBSTANTIALLY ADVANCE THE PUBLIC INTEREST.

As the Notice points out, signal boosters can serve as an effective and efficient means to provide fill-in coverage within a licensee's service area.[2] In this regard, because boosters contain fewer and less complex components than base stations, 900 MHz licensees can achieve significant cost savings by deploying boosters rather than base stations in some instances. The fact that boosters do not require phone lines further contributes to their cost effectiveness. RMD has calculated that its cost per square mile of coverage using boosters would be approximately 1/2 to 2/3 of the cost associated with using base stations.

System boosters are also highly desirable from a system management perspective. Unlike base stations, which must be individually configured to operate and then individually reconfigured each time an update to the base station operating software package is released, signal boosters, once deployed, require little individual attention. RMD's 900 MHz SMR network is presently comprised of over 1000 base stations nationwide. The software and configuration issues associated with this many sites are enormous, giving rise to significant administrative burdens and expense.

The significant cost savings and enhanced administrative efficiencies that 900 MHz licensees can derive from the routine use of signal boosters substantially advances the public interest. Because boosters enable such licensees to provide service within their licensed areas of operation at a lower cost, licensees can afford to provide service to a larger percentage of the population within their respective service areas. This is of particular benefit to individuals residing in rural communities, communities whose population density may be too sparse to justify

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[2] Id. at ¶ 5.

the expenses associated with the deployment of a base station. The savings that flow from the use of signal boosters also can be used to improve network reliability, expand network capabilities and reduce subscriber fees.

II. THE MAXIMUM POWER LEVEL PROPOSED IN THE NOTICE IS INSUFFICIENT AND SHOULD BE INCREASED FOR 900 MHZ SMR LICENSEES.

A. Narrowband (Class A) Boosters.

The benefits associated with signal boosters cannot be realized if the Commission adopts the proposal in the Notice to limit the total output power of a booster to 500 mW.[3] Such a low power signal is wholly inadequate, in most cases, to provide suitable in-building coverage or fill in dead spots in coverage areas. With respect to narrowband boosters (which include booster/translators), the power limits applicable to 900 MHz SMR licensees should be roughly equivalent to those applicable to cellular licensees' repeaters. Cellular repeaters, which the Notice acknowledges are a form of signal booster (functionally equivalent to the booster/translator),[4] are permitted to operate at power levels not in excess of 500 watts provided that the interference contour of the cellular system is not extended beyond its permissible boundaries.[5] This approach makes sense in the cellular context because cellular licensees have exclusive rights to the boosted frequencies within their service areas and, provided they do not boost their interference contours beyond such areas, will not cause interference to other users.

This logic applies with equal force to 900 MHz SMR licensees in the context of narrowband boosters. Like cellular licensees, 900 MHz SMR licensees will enjoy exclusive rights to their assigned frequencies within their respective areas of operation. Accordingly, the deployment of narrowband boosters by 900 MHz SMR licensees will not cause interference to other users provided that such licensees are required to maintain their signals within the geographic boundaries defined by Part 90 of the Commission's Rules.

In this regard, allowing 900 MHz SMR licensees to deploy narrowband boosters (including booster/translators[6]) in the same manner that cellular licensees

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[3] Id. at ¶ 8.
[4] Id. at ¶ 4 and ¶ 10.
[5] 47 CFR 22.913(a) and 22.165.
[6] It is important to note that, due to the translation of frequency, a booster/translator provides significant isolation between the two relevant antennas, allowing the booster/translator to achieve

(footnote continued on next page)

are now permitted to deploy repeaters will advance important regulatory parity objectives. Unless 900 MHz SMR licensees have the same level of flexibility as that accorded to cellular licensees, 900 MHz SMR licensees will be placed at a distinct competitive disadvantage *vis-a-vis* cellular licensees who are able to build-out their systems and reach additional subscribers with high power repeaters at a fraction of the cost SMR licensees are required to incur when constructing base stations.[7] This is precisely the type of disparate regulatory treatment Congress sought to eliminate when legislating regulatory parity.

B. Broadband (Class B) Boosters.

RMD recognizes that a different set of concerns are implicated by the deployment of broadband boosters. Unlike narrowband boosters, broadband boosters amplify all frequencies received within the booster's passband. Accordingly, the deployment of such boosters carries with it a greater potential for interference.

That said, the power limits proposed in the Notice are so low as to be insufficient to permit 900 MHz SMR operators to resolve coverage problems within their service areas, the stated objective of the rule making. Moreover, as a practical matter, RMD is not aware of any booster manufacturer that makes boosters available at the exceedingly low power levels set forth in the Notice. While it is true that, if all things were equal, 900 MHz SMR operators could deploy narrowband boosters, the reality is that broadband boosters are far more readily available and far less expensive than narrowband boosters. In this regard, because of the greater spectrum allocated, cellular licenses can employ broadband-type boosters. Accordingly, the ability of 900 MHz operators to deploy broadband boosters is of great importance to their ability to provide efficient, competitive service.

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gains many orders of magnitude greater than non-frequency translators. As a result, a booster/translator can provide a coverage footprint roughly equivalent to that of a base station. The cost savings associated with the use of traditional signal boosters (savings that can be used to extend coverage to outlying areas within an operator's licensed service area, to expand the range of services offered over the network, and to lower subscriber fees), therefore, are nearly doubled in the context of booster/translators.

[7] Providing 900 MHz licensees with comparable operational freedom will also assist them in satisfying the ambitious coverage requirements the Commission recently decided to impose on 900 MHz SMR MTA-based licensees.

In order to mitigate the interference causing potential of these devices, however, RMD proposes that, for devices over 500 milliwatts, their deployment by 900 MHz licensees be consistent with the following proposed rule:

> "900 MHz SMR licensees may deploy broadband (Class B) boosters at power levels in excess of 500 mW, but not in excess of 3 watts, subject to the following conditions:
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> (1) deployment limited to use associated with in-building or other comparably shielded locations (*e.g.*, tunnels);[8]
>
> (2) co-channel users in the area potentially adversely affected by the use of the devices must be notified of their deployment; and
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> (3) such devices may be operated only on a secondary basis."

While RMD is aware that its proposed power level is higher than that proposed in the Notice, the additional shielding derived from the "in-building" use restriction will virtually eliminate the potential for these boosters to amplify unwanted signals originating from outside the shielded location, be it a building or tunnel. This added shielding effect will reduce substantially the potential for interference to other users.

It is important to note that, in light of the comparatively "clean" co-channel operating environment at 900 MHz SMR (compared to other services implicated by this rule making), RMD does not anticipate any interference to result from the in-building deployment of broadband boosters by 900 MHz operators, as proposed. In the event that such interference develops, the fact that these boosters can only be operated on a secondary basis will ensure that such interference, at worst, will be short-lived. But RMD (which has every interest in making sure that its own signals in the band are protected) is convinced that the risk of interference is so small and its likely occurrence (if at all) so isolated that the tremendous efficiencies and cost-savings that can be derived from the use of such boosters should not be wasted by,

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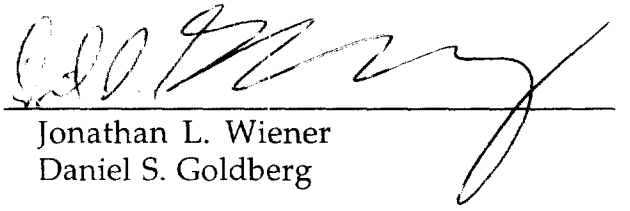
[8] That is, retransmitting a signal received from a mobile unit located within a building or other shielded location to a base station located outside of the shielded location. In the case of a building, RMD envisions a 900 MHz SMR licensee deploying a broadband booster inside of the building with an antenna associated with the booster located on top of the building. The use of directional antennas will reduce even further the potential for interference.

what for 900 MHz SMRs, appears to be an unnecessarily conservative prophylactic approach.

Respectfully submitted,

RAM MOBILE DATA USA
LIMITED PARTNERSHIP

By: 
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August 14, 1995